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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,961	08/18/2006	Yoshiaki Matsunami	060623	1062
23850 7590 04/15/2010 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. 4th Floor WASHINGTON, DC 20005			EXAMINER APICELLA, KARIE O	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 04/15/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/589,961

Applicant(s)

MATSUNAMI ET AL.

Examiner

Karie O'Neill Apicella

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

1. The Applicant's amendment filed on January 13, 2010, was received. Claim 1 has been amended. Claim 2 has been cancelled. Claims 3-8 have been added as new. Therefore, Claims 1 and 3-8 are pending in this office action.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on August 13, 2009.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Choi (WO 94/02995).

With regard to Claim 1, Choi discloses a separator for a lead-acid battery having a sulphuric acid electrolyte (page 16) comprising: a porous membrane made from a polyolefin resin such as polyethylene or polypropylene (pages 16-17), an inorganic powder, also called a filler material made of materials such as metal oxides and hydroxides of silicon, aluminum, barium, titanium, calcium, magnesium and more (pages 18-19), and a mineral oil (page 20). Choi discloses wherein the separator may contain additional components such as surface active agents, also called surfactants,

either by having them made as part of the separator composition or having them separately applied by spraying and the like (page 24). Choi also discloses a procedure for extraction of the processing aid, or mineral oil, from the separator by using a solvent or extraction conditions in which the polymer and filler materials are essentially insoluble; for example, chlorinated hydrocarbons such as trichloroethylene, tetrachloroethylene, carbon tetrachloride, methylene chloride, tetrachloroethane; hydrocarbon solvents such as hexane, benzene, petroleum ether, toluene, cyclohexane, gasoline, etc; and water, ethanol, methanol, acetone, aqueous or alcoholic sodium hydroxide, potassium hydroxide and the like (page 23).

The phrase "wherein the separator liberates or elutes 1.0 ml or less per 100 cm² of reducing substance" is considered a process step and the phrase "as calculated from a consumption of a 0.01 N potassium permanganate solution per 100 cm² of the porous membrane, when four test pieces of the separator each having a height of 10 cm and a width of 10 cm are subjected to 24 hours of electrolysis carried out at about 25°C with a direct current of 1.2 A by using an electrolytic cell composed of the porous membrane, a positive electrode, a negative electrode and diluted sulfuric acid" is considered to be test conditions, and together the phrases are construed as product by process claim limitations. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious

from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698,227 USPQ 964, 966 (Fed. Cir. 1985). Since the separator of Choi is made from the same materials as the separator of the instant invention, Applicant's process is not given patentable weight in this claim.

Further, such properties are inherent, given that both Choi and the instant application utilize the same materials. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. See MPEP 2112.

With regard to Claims 3 and 4, Choi discloses a lead acid battery comprising a porous membrane made from a polyolefin resin, an inorganic powder and a mineral oil, as well as, containing a surface active agent. The phrases "wherein the separator liberates or elutes 0.9 ml or less per 100 cm² of reducing substance" and "wherein the separator liberates or elutes 0.7 ml or less per 100 cm² of reducing substance", in Claims 3 and 4, respectively, are considered process steps and the phrase "as calculated from the consumption of a 0.01 N potassium permanganate solution per 100 cm² of the porous membrane" is considered to be a test condition, and together the phrases are construed as product by process claim limitations. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in

the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698,227 USPQ 964, 966 (Fed. Cir. 1985). Since the separator of Choi is made from the same materials as the separator of the instant invention, Applicant's process is not given patentable weight in this claim.

Further, such properties are inherent, given that both Choi and the instant application utilize the same materials. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. See MPEP 2112.

With regard to Claim 5, Choi discloses wherein the polyolefin resin is a polyethylene resin (pages 16-17).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi (WO 94/02995), as applied to Claims 1 and 3-5 above, and in further view of Tsuda et al. (US 6,361,865 B1).

Choi discloses the separator for a lead acid battery in paragraph 4 above, but does not specifically disclose wherein the surface active agent, also called a surfactant,

is an anionic surface active agent or a nonionic surface active agent, more specifically wherein the surface active agent is a sodium dialkylsulfosuccinate.

Tsuda et al. discloses a method of applying a surface protective coating to a resin substrate. Tsuda discloses wherein the surface protective coating comprises a surfactant including an anionic surfactant, a nonionic surfactant and an amphoteric surfactant in an amount of 0.05 to about 5.0 parts by weight on the basis of 100 parts by weight (column 6, lines 1-3). Tsuda specifically discloses that the anionic surfactant is sodium dialkylsulfosuccinate (column 5, lines 34-40). At the time of the invention it would have been obvious to one of ordinary skill in the art to use sodium dialkylsulfosuccinate as a surfactant material in the separator for a lead acid battery of Choi, because Tsuda et al. teaches that the surface coating has excellent chemical resistance and solvent resistance (column 1, lines 5-41).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choi (WO 94/02995), as applied to Claims 1 and 3-5 above.

Choi discloses the separator for a lead acid battery in paragraph 4 above, including wherein the microporous matrix material that makes up the separator contains from about 5 to 25 percent by weight of the polyolefin resin, about 8 to 95 percent of the inorganic powder or filler, and from about 0 to 20 percent of the mineral oil (page 8). Choi does not disclose wherein the mixing materials contain 0.5 parts or less of the surface active agent which comprises a sodium dialkylsulfosuccinate and materials consisting of 9.5 to 30 parts of the polyolefin resin, 19.5 to 30 parts of the inorganic

powder and 49.5 to 70 parts of the mineral oil. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the specified composition amounts, since it is highly desirable to have a separator which is capable of exhibiting very low electrical resistance while at the same time providing physical strength and minimized shrinkage, and sine it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See MPEP 2144.05.

Response to Arguments

8. Applicant's arguments filed January 13, 2010, have been fully considered but they are not persuasive.

Applicant argues that "the claimed limitation regarding the amount of reducing substance liberated or eluted from the separator is not a product-by-process limitation and should be given patentable weight". Applicant attempts to explain from the instant specification that "the amount of reducing substance liberated or eluted from the separator describes a physical characteristic of the claimed separator and is not a product-by-process limitation."

The product-by process rejection is maintained, as seen in the rejection of record. Applicant admits in the arguments, and taken from the instant specification on page 16 to page 18, the claimed separator is subjected to "test conditions" in order to "measure" the amount of reducing substance liberated or eluted from the "test pieces".

These "test conditions" are method steps and considered to be a process in a product claim.

Applicant argues that "the Examiner alleged on page 4, lines 11-14, of the Action that the claimed characteristics might be inherently present in Choi's separator. Applicants would like to point out that, to establish inherency, the missing element should have been necessarily present in the prior art device (MPEP 2112). The fact that a certain result or characteristic may potentially occur is not sufficient to establish inherency." Applicant goes on to argue that "Choi does not state that its separator has the recited physical characteristics, nor is there any suggestion in Choi that would lead a person of ordinary skill in the art to conclude that Choi's separator must necessarily exhibit the claimed physical characteristics. Thus, Choi fails to disclose the claimed separator, either literally or under the doctrine of inherency."

MPEP 2112.01 specifically states, where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product.

In re Best, 562 F.2d at 1255, 195 USPQ at 433. See also *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985)."

Applicant has not sufficiently shown burden of proof that the products of the instant invention and the prior art are not the same and would not produce the same physical characteristics. The instant invention and the prior art reference, Choi, utilize the same materials, which is a separator for a lead acid battery comprising a porous membrane made from a polyolefin resin, an inorganic powder and a mineral oil, as well as, containing a surface active agent. The so-called recited "physical characteristics" are not given patentable weight due to the product-by-process limitations. Therefore, without proper burden of proof, the rejection is maintained and is proper.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill Apicella whose telephone number is (571)272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795

Karie O'Neill Apicella
Examiner
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KOA